

PRESIDENTIAL ADDRESS 1992

The Natural History Collections of
William John Macleay as Reflected Through
His Known Diaries (1874-1876, 1878-1881)

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[Delivered 25 March 1992]

Synopsis

William John Macleay was most influential in stimulating interest in Australian natural history in the latter decades of the 1880s. His initial motivation was in the study of insects but later he broadened his energies into all branches of natural history, including anthropology. It is nearly impossible to learn of his developing interests in natural history because almost all of his correspondence was destroyed. The best known source of his activities in this field may be found in his extant diaries of 1874-1876 and 1878-1881. Selected chronological entries from his diaries help illustrate the extent of his interests in natural history and point out some of his influential Australian and overseas colleagues. The entries also give an insight into the historic and scientific values of the Macleay natural history collections. A brief history of the collections after William Macleay's death in 1891 follows the entries. Finally, questions are posed about the future of the Macleay family's natural history collections.

Key words: Australian zoological history, birds, insects, William John Macleay.

INTRODUCTION

The Macleay family was most influential in encouraging the study of natural history in nineteenth century Australia. They not only brought large collections to this country, but supported research and encouraged many people to assemble and study Australian natural history collections.

Even today the insect collection assembled by the Macleays' is the oldest and historically the most important in Australia. There are more than 600,000 specimens dating from the 1750s to the present, more than sixty per cent of which are exotic. This is the largest exotic insect collection in Australia. Over 900 insect types have so far been recognised in the collection but there are many yet to be discovered. There are many, many fascinating avenues of research yet to be pursued in this vast collection alone.

Alexander Macleay (1787-1848) brought to Australia, in 1826, what was described in contemporary accounts as the finest and most extensive insect collection then existing in the possession of a private individual. This collection was almost entirely historic foreign material but did include some eighteenth century Australian specimens, including types. Circumstantial evidence indicates that he brought other zoological collections as well but they are not well documented as yet.

William Sharp Macleay (1792-1865) also brought a large insect collection to Australia in 1839. This also included historic exotic material and there was an extensive collection of invertebrates from Cuba. He also had a very large collection of the beetle family Scarabaeidae, his interest at the time. Other collections included Decapoda from South Africa, terrestrial invertebrates and marine specimens. There are several drawers of these pinned marine specimens in the collections today, labelled 'SIO' (South Indian Ocean) in his handwriting.

Strangely, neither of these gentlemen seemed to pursue entomology when they arrived in Australia. Alexander spent much of his energies on botany and William Sharp became more interested in marine biology and vertebrates. Though the insect collections were extensive and of great historic interest they were little used and it was not until William John Macleay began his interests in natural history that the Macleay collections began to branch out into all areas of natural history. Efforts of this gentleman are the subject of this evening's address.

Fletcher (1921, 1929) and Walkom (1925) gave detailed summaries of the lives and interests of the Macleay family based on material that was then known. There has been a severe handicap in learning of William John Macleay's scientific life because Lady Susan Macleay wrote in 1898 '... regrets that she cannot produce any letters from Huxley as she destroyed all her husband's correspondence' (Dawson, 1946). I have spent much effort in trying to locate at least some of his correspondence to colleagues but with a singular lack of success. Though he wrote to many people, little correspondence seems to exist today, particularly in Australia and New Zealand. The best source of William John's interest is natural history is in his known diaries. Walkom appended the following statement to Fletcher's 1929 paper on the history of the Macleays:

[Mr. Fletcher, on more than one occasion, told me that he had accepted the private journal of Sir William Macleay on the understanding that, when he had abstracted references to affairs concerning the Linnean Society, he would reverently destroy the journal since it contained much information of a private and confidential nature. I have, therefore, not omitted from the above Address any of the extracts quoted from the journal, since they are no longer available for reference. — A.B.W.]

These diaries were not destroyed by Fletcher and they are now in the Mitchell Library. The diaries include the years 1874-1876 and 1878-1881. I have transcribed all of them onto computer files and they may be published in future.

For this presidential address, I have selected entries of his diaries to help illustrate the extent of William John's interest in natural history, note some of his scientific colleagues to show his broad interest in zoology and have included a few interesting collection techniques, two of which would not be acceptable today. One of the purposes of using his diaries is to help illustrate the historic and scientific values of the Macleay collections. I will also give examples to show that there is a wealth of information that can be pursued in future particularly to learn more of his collections. The extracts (with a few additions in square brackets []), and my annotations, will be in chronological order. These extracts will be followed by a brief history of the collections after William Macleay's death in 1891 and questions are posed about the future of the Macleay's natural history collections.

1874 DIARY

Macleay's first entry is in its entirety. There is no mention that this is his first attempt of keeping a diary but I suspect, from the manner in which he started this diary, that he did keep earlier diaries or notebooks.

Thursday, 1 January

At Colls Hotel Yass. Left Sydney on Tuesday evening by train with Mr Stephens & Masters having sent up covered waggonette, pair of horses & driver on the previous morning by train to Goulburn. On the following morning ascertained that waggonette was too small for party. Spent some hours in endeavouring to procure a larger & being unable to do so, hired a buggy & horse from Payten to assist as far as Yass. Started from Goulburn about midday. Mr Masters with the coachman & all the baggage in the waggonette, Stephens & myself in the buggy. Day intensely hot, reached Beaus Inn in the evening & stopped the night. Left Beaus at Sunrise this morning, breakfast about nine at Gap Inn, got a very good breakfast from Mrs Margules "inter alia" a roast wild duck, this being the first day of the season the bird

however was so very tender that we did not enquire as to the day it was bagged. Came on here after breakfast, left Mr Masters on Plain two miles from here to collect. Heat most intense. Nothing occurred worth noticing one of the horses yesterday in shying at a woman on horseback got the breaching under his tail & commenced kicking but no harm was done. Country on the whole looking well dry but plenty of grass. The wheat crops only now having being reaped, very little land under crop. No unusual birds, saw this morning Cockatoo Parrots and Greenbeaks. Nothing remarkable in Insects. Masters states that the heat was so intense on the plains that nothing was to be found under stones & even ground beetles has ascended stalks of grass — the stones were too hot to touch.'

His entry for 3 January illustrates an interesting point. There was very little biological information published on in his 39 papers on entomology — they were basically all taxonomic efforts. But he was interested in the biology of invertebrates and only in his diaries may we learn of some of his observations. Two examples include:

'Saturday, 3 January

He [Masters] took a fine new *Stigomodera* this morning on *Blursoria* on the big hill on the Jugiong side to Reedy Creek. I saw at Jugiong on lately killed box tree, species of *Passandra*, buried up to the scutellum with the abdomen protruding, showing that these insects whose larvae are undoubtedly subcortical, first bore the hole by their mandibles & then insert their eggs.'

'Monday, 5 January

I noticed on the river bank, the rushes with very many of a species of *Asilus* (not of much size) hanging on the stems each with a honey bee (English) in his grasp, from which he had extracted or was extracting the vital fluids, it seems extraordinary that an insect of this size would so invariably overcome a stronger apparently & certainly as large an insect as itself but the fact is undoubted & may account for the scarcity of the English bee in parts of the country where it once seemed likely to become enormously numerous.'

The bird collection in the Macleay Museum now has about 9000 specimens and more than 2500 species. Macleay noted the start of his ornithological collection with these comments:

'Monday, 26 January

Masters came in the evening, he first packed away in a drawer of the table in my other room the birds we brought from the Murrumbidgee, they were mostly purchased from West at a cheap rate, but about six of them were shot & skinned by Masters himself. This the commencement of my ornithological collection numbers 35 species.'

The following comment is quite valuable because it gave an indication of how large the insect collection was at that time. The numbers of drawers also included the collections of Alexander and William Sharp:

'Friday, 30 January

I finished & sent away some details of my collection for Deas Thomson. I make out that the joint collection occupies 800 drawers & the Library numbers about 2000 volumes.'

Undoubtedly the single most valuable contribution to the William John collections was the hiring of George Masters as his curator. In the following extract, his comment on insect pins was prophetic — some of these unused pins are still in the Museum:

'Friday, 6 February 1874

This was the first day of M^r Masters engagement with me as Curator at £300 a year. He came about 10 o'clock, his usual hours will be from about 9 in the morning till 4 or 5 in the afternoon as may be found desirable with an hour & a half in the middle of the day for dinner & recreation. He brought with him this morning 3 1/2 lbs of Insect pins which he had found in the shop of some German in Bridge Street. They were very good & I was in much want of them, so I willingly bought them at the moderate price of 1/ per ounce £2.16.0 in all. I have now a supply which will last me for years.'

Macleay was decidedly keen to build his bird collection:

'Tuesday, 24 February

I purchased from him [Masters] today 85 species of bird skins, 138 specimens in all. They seem to be very good skins & some of them are rare, the whole amounts to £13.15.6.'

Though Macleay was working hard at building up his collections, he gave attention to some collections assembled by William Sharp and possibly Alexander Macleay:

'Monday, 2 March

Mr Masters laid out about 90 Butterflies, & in the afternoon we made a commencement of looking over & resorting & bottling the snakes lizards &c which have been bottled up in the collection for many years. They are heaped together without any order & there is no indication of name or country.'

The following entry is one of the first that gives an indication of his interests in marine biology. He surely was influenced by his cousin William Sharp but I believe the forthcoming visit of the *Challenger* Expedition prompted these actions:

'Monday, 9 March

I ordered today at Lassiters a small steel crowbar chisel & hammer, so as to be fully equipped for the collection of marine animals when the weather gets cooler.

Two very fine black bream were brought here this evening by Johnson, his days sport consisted of 4 dozen fine fish, the two he brought were he says different species one known as the harbour Bream the other as Sea Bream. I shall test their respective merits at breakfast tomorrow.'

Throughout his diary entries, William John presents himself as a very serious, factual person. His sense of humour is almost totally lacking, but there are a few gems of his very dry humour as evidence in the above entry.

Macleay soon became quite dedicated to the collection of marine specimens. This entry also shows that he was willing to pay large sums of money for rare birds and reflects his interest in anthropology.

'Friday, 27 March

Masters & I spent an hour this morning on the beach, & made a considerable collection of marine animals. . . . I made some additions to my collection to day by purchase. I have purchased through Mr Masters from one named Spalding a fine male of *Menura Alberti* [Albert's Lyrebird] for £1 — & I purchased from Palmer for 4/ a skin thirty birds of which 21 were species not previously in the collection. I also purchased & brought home from Palmer, a complete skeleton not articulated of an aboriginal female.'

Macleay continued to collect marine specimens avidly, possibly because he wanted them at hand when the naturalists from the *Challenger* would visit him shortly. He also experimented with preservation techniques, but the following experiment failed miserably:

'Monday, 30 March

Masters & I went out in the boat alluded to about quarter to 12 taking lunch &c with us. We crossed to a small bay on the North side of the harbour laying between Cove & Bradley's head, named Liardet's beach & made a considerable collection of Annelids, with a few crustaceans, Mollusks & Fishes, these last the most extraordinary little things of most grotesque forms. We returned about 2.30 & on our way back captured a large Medusa which I am striving to preserve. I washed it well in fresh water & then poured a little strong spirits on it & I intend to repeat the operation tomorrow.'

The following entry may be of interest to members of the Linnean Society of New South Wales. More marine specimens were taken — the *Challenger* Expedition arrived two days later:

'Saturday, 4 April

My fishing Picnic came off to day. The party consisted of D^r Badham, Dalley, Stephens, Davis, Baillie of the Murrumbidgee, Captain Chapman, Forster, Masters & myself. Our accompaniments were a North shore Steamer, two watermens boats, George Mulhall & another & a fisherman's boat with two fishermen. Jocelin who supplied edibles sent a cook & I brought with [me] my butler. Captain Chapman brought dredges &c & his Coxsmen to

manipulate them. We got away from Circular Quay soon after 8 o'clock, called at the H.M.S. Dido for Chapman at Woolloomooloo Bay for the fishermen & at Rose Bay for Dalley. We had a most pleasant day which terminated at 6 P.M. I had with me 2 jars & 1 bottle of spirits & collected many species of Fish, Mollusca & Crustacea. The result of the dredging was not particularly good, nor was the fishing anything to boast of but we had enough to eat & full justice was done both to edibles & drinkables. D^r Cox was prevented by a professional engagement from joining us.'

It is obvious that William John was keen to build his bird collection as quickly as possible:

'Sunday, 12 April

I wrote to M. A. Boucard [London] giving him an order for 1000 species of birds.'

The following entry is included because it illustrates William John's interest in marine invertebrates. He had apparently a very large collection of these animals but unfortunately little of this group now exists in the Macleay Museum:

'Monday, 13 April

An extremely hot day up to 10 o'clock after which a sea breeze sprung up. As it was low tide between 11 & 12, Masters & I went out in a boat about 10 o'clock returning at 1. We went to Clark Island & got among the rocks there a great many fine things, chiefly shells, Mollusks, one very large & very peculiar, which we afterwards lost in some way. We also got some fine Echini, Asterias, & Ascidians & a few fine Annelids. Upon the whole a most fortunate day, our mistake being our not having sufficient jar & basket room, & having lost too much of the tide before starting. In the afternoon we washed & sorted our captures of the morning.'

George Masters was an excellent curator and collector. He was particularly skillful with an air rifle and shotgun and often attended pigeon shoots and winning prizes. This entry is the first in Macleay's diaries to refer to his museum thusly:

'Wednesday, 15 April

M^r Masters went to a pigeon match in the afternoon, so that very little was done to day in the museum (Macleayan).'

The following 1874 entry is important to help illustrate William John's ideas of how the insect collections should be curated:

'Friday, 17 April

A beautiful clear day with west wind. Masters & I sorted our collection of yesterday in the forenoon & in the afternoon moved some specimens of Australian Coleoptera from the W. S. Macleay cabinets to my Cabinet of Australian Coleoptera. I have determined now as the two collections are going the same way no longer to keep them separate but to have the one collection only, known as the Macleay collection. The Australian insects being more complete in my Cabinet I intend to use it for the purpose while the foreign insects for the same reason I will accumulate in the W. S. Macleay cabinets.'

The *Challenger* expedition was still in Sydney and perhaps this may have influenced Macleay's purchase of the following invertebrates:

'Monday, 20 April

M^r Brazier came in the morning with a fine collection of over 70 species of Crustaceans from New Caledonia & about 20 species of Echini & Asteriads from the same place. I gave him £10 for the lot, rather a high price, but it would not be easy to get such a collection again.'

Macleay was a trustee of the Australian Museum in 1874 and there must have been conflicts of interest between that museum and his own. One such conflict may be illustrated thusly:

'Wednesday, 22 April

M^r Brazier called this morning to offer for sale a collection of Mauritius & Madagascar animals. It formed part of a collection sent some months ago by a M^r Nobillord addressed to me & D^r Bennett Trustees of the Museum, & which without my hearing about it, had been sold as unclaimed goods at the Custom House at one tenth its value. Braziers lot consisted of 3 species Mammals, 19 Birds, 6 Fishes, 29 Crustacea & 16 Radiata &c &c. I gave him £10 for the lot.'

William John was very much interested in the *Challenger* collections and undoubtedly wanted to show the expeditioners his own interests. This entry describes a fishing party held for the naturalists of the *Challenger* expedition:

‘Thursday, 23 April

A warm but very fine day with a sea breeze in the afternoon. At 8 o'clock in the morning I was at the Northern Steam Ferry Wharf Circular Quay to meet my guests for my fishing party. In a short time all were mustered & having got our provisions & on board we made a good start. The party consisted of Professor Wyville Thomson M^r Murray his assistant, Professor Badham, Stephens, Onslow, Mackay, Masters, D^r Cox — Forster & myself. We were accompanied by the dredging steam pinnacle of the Challenger, Tom Mulhall & a fishing boat with two men, which we picked up by arrangement off Woolloomooloo Bay. We called at H.M.S. Dido for Captain Chapman & at Point Piper for Ned Hill who brought with him a black fellow & a lot of dynamite torpedoes for fish. We had a very pleasant day, though our success in fishing & dredging was not great. We dredged among other places the deep parts of Middle Harbour above the spit, found 18 fathoms water mud & no life. We got back between 6 & 7 o'clock.’

There are very few references to the curation of his collections but the following one is interesting. Many hundreds of the boxes mentioned are still in the Macleay Museum, all neatly labelled by George Masters:

‘Saturday, 2 May

Masters put aside in small glass topped boxes the shells we have collected in Port Jackson already nearly 100 species, it seems a neat mode of arranging them.’

The following two entries introduce two collectors that contributed many specimens to his collections. At least some of the Treasury Island Coleoptera are still in the Macleay Museum:

‘Thursday, 21 May

M^r DuBouly came about 9.30 bringing with [him] his Endeavour river collection. It consisted of about 500 insects, a few land shells & half a dozen bottles of spirits containing snakes, lizards &c. There were some very fine & new things among the Coleoptera. I gave £15 for the whole lot. M^r Damel came in the morning by appointment, but I was so busy that I had to send him away.’

‘Friday, 22 May

Masters brought this morning a donation of about a dozen Coleoptera from Treasury Island. I also got today a consignment of birds from E. Waller of Brisbane they numbered 62 specimens & 48 species for which I paid £15.10 or 5/ per skin. My Australian Birds now number 247 species.’

The *Challenger* expedition was supposed to depart on 8 June but did not actually leave until 10 June because of rough weather:

‘Tuesday, 2 June

I made two purchases today one from M^r Damel of 48 species of land shells from the Philippines & 11 species from New Granada for £7.16 — the other from M^r Masters of specimens in spirits of small mammals, lizards, snakes &c from Salt river in the interior of Western Australia. I gave him what he had paid when he got them some months ago — £2 — I sent Professor Wyville Thomson's boxes on board [the *Challenger*] today & accompanied them with two cases of my wine (red 1871).’

‘Monday, 8 June

The Challenger went out this evening, her first duty is to sound between this & New Zealand for the benefit of the telegraphic cable about to be laid down. She then proceeds to New Guinea, China, Japan &c.’

Macleay's bird collection continued to grow:

‘Saturday, 11 July

M^r Waterhouse of South Australia sent to me today through M^r Masters 36 species of birds

which I had not in the collection previously from S. Aust. W. Aust. & the Northern Territory. He wishes in exchange for them birds of New South Wales & Queensland & names some of his desiderata. This brings my collection of Australian birds up to 315 species.'

Many of Macleay's specimens do not exist today, partially because they were soft marine invertebrates and were most difficult to preserve and maintain. Ticks and fleas are robust and should have survived, but none of these groups attributed to William John are in the Macleay insect collections today:

'Sunday, 23 August

A Bandicoot was caught in one of the traps this morning. I intend to have him skinned. He was covered with ticks small, large & very large & also with a large species of flea, it seems wonderful how he could have lived yet he seemed well & lively.'

The crab mentioned in this next entry is still in the Macleay Museum. George Masters was a skilful curator, despite some of the difficult and odourous tasks given to him:

'Wednesday, 30 September

I went to town with Masters at 10.30 & purchased from Emerson Oyster saloon King Street a gigantic Crab from Bass Straits for 10/. I also purchased from Palmer Hunter Street seven Australian birds of which I had only single skins previously & one parraquet from New Zealand, for £1.15. The Crab was in a very decomposed state & gave Masters some hours hard work to clean, the presrvng process being carried on in a corner in the garden.'

Macleay was to give a lot of attention to marine collections and this entry may give an indication of his idea of mounting a large oceanic expedition later. Perhaps this was a trial expedition:

'Tuesday, 6 October

I closed with Crichton today about the Ketch "Peahen". On Thursday I take her for two months for £90. The services of himself & two men given in. Brazier is to have charge, & is to have an assistant at £1 per week. They will be provided with food on board, for which I am to make an allowance. She is to go first to the South & Jervis Bay where Masters & I may meet her.'

This entry may be of interest to members of the Linnean Society of New South Wales and shows Macleay's continued interest in fostering science:

'Tuesday, 13 October

D^r Alleyne & Captain Stackhouse are trying to get up a Society of Natural History. I hope they may succeed. Such a Society embracing all branches of Natural History, & issuing a Monthly Magazine ought to be both useful & successful. I affixed my name to the proposal.'

Obviously Macleay was keen to build up his bird collection, sometimes regardless of the ethics:

'Friday, 16 October

At Breadalbane second plain Masters shot, the law notwithstanding, a fine male black duck at Mulbilly, he shot, also contrary to law, a couple of spur winged Plovers, a bird not previously in my collection & on the summit of the Callarin range he shot a fine specimen of the large Cuckoo also new to my collection.'

The bird collection was greatly enlarged from a shipment from Boucard, London, as illustrated in these two entries:

'Wednesday, 28 October 1874

The other box contained as I supposed birds from Boucard, 850 skins, for the most part in fair order, & all ticketed with name & country. They are almost all small & chiefly from South & Central America, very few Europeans among them. A great number apparently of Trochilidae [Hummingbirds], but I have not yet had time to analyse them. The box contained also some of Boucard's Catalogues & Gray's Handbook of Birds in three volumes. There were 20 or 30 Australians among them, six of them species I hadn't got.'

'Friday, 6 November

I finished with the birds today. The total number of species in the Boucard is under 650, my total in all about 980 species.'

Macleay was obviously thinking of a large sea-going expedition:

'Tuesday, 10 November

I went to town in the morning, sent a Petition to Sutherland, ordered 10 gallons Meth. Spirit for Brazier & wrote John Manning inquiring price of a Steamer he advertises.'

'Wednesday, 11 November

Manning's price for Steamer is £4000, altogether too much. I shall go tomorrow & seek advice on the subject from Moriarty.'

A most important event that greatly benefitted the Macleay collections was his resignation from Parliament.

'Thursday, 26 November

I returned home to luncheon, & went in again at 4 when I found that Parliament was prorogued by proclamation, & that it would be dissolved probably tomorrow. I have made up my mind not to offer myself again & as soon as the dissolution is proclaimed, I shall send an Address to the Electors of the Murrumbidgee telling them so. I intend to give my attention henceforth entirely to Natural History & the improvement of my Museum.'

This next entry is a small bit of information that would provide an worthwhile project to follow. It would involve finding and searching F. Bates correspondence and recognising how he labelled insects. There is a very real possibility that some of Bates types are still in the insect collection, but as yet unrecognised.

'Thursday, 17 December

I also had a letter by the same mail from F. Bates in which he gives me a list of a number of Heteromerous types which he is sending me & which ought with insects from H. Bates to have arrived in the last P. & O. Coy's mail Steamer.'

1875 DIARY

In a natural history context, the 1875 diaries are perhaps the most interesting. They are chiefly concerned with the preparation for and the narration of the *Chevert* Expedition. There are two diaries, the first contains his usual day to day commentaries before and after the expedition and the larger size diary kept during the *Chevert* expedition. I purposely have avoided extracting entries from the expedition, with a few exceptions, because the expedition is well covered in Fletcher (1929). Also an extensive review is in preparation by one of my colleagues.

Both Macleay and Masters were extremely diligent about the curation of the collections. This entry typifies entries made on other holidays:

'Friday, 1 January

Neither Masters nor I made a holiday of it & we were joined in our work by Stephens. It consisted of bottling & looking over Asteriods etc from the Endeavour river & in looking over a cabinet of dried fish part of the W. S. Macleay collection.'

William John was really serious about organising an overseas expedition by early 1875. This is the first mention of going to New Guinea in his diaries:

'Tuesday, 5 January

Dr Cox called today with Captain Edwards an old sea Captain well acquainted with Torres Straits & the South Sea Islands. I had a long conversation with him, he is to look out for a vessel for me suited to my proposed trip to New Guinea & I am sure he would like to go as Skipper.'

Macleay continued to add to his bird collection. Many specimens had been purchased from the taxidermist, Palmer:

'Thursday, 14 January

I sent Masters in the morning to Palmer, the Hawk turned out to *Elanus scriptus* [Letter-winged Kite]. Masters purchased it for 10/, he also got an Owl, *Strix delicatulus* which I had

not got & a white Cockatoo. He also purchased for me 16 regent birds, 16 rifle birds, 16 *Carpophaga magnifica* & 16 *Pitta* — all males in fine plumage at 4/ each & 26 Californian birds at 2/ each.'

Some curation techniques used in the nineteenth century would not be at all acceptable today and included this wry comment:

'Wednesday, 20 January

I went to town at 11 o'clock this morning, & was sorry to find on my return at 12 that I had missed Dr Cox, who had called & brought me a porcupine alive & two specimens of a small lizard & three species of small fish from the New Hebrides. The Porcupine was found most difficult to drown, he was skinned this afternoon by Masters.'

Macleay was a very strong supporter of the scientific community and especially the Linnean Society of New South Wales. Unfortunately many of his early endeavours were lost in the Garden Palace fire, but he was undaunted and he continued to provide major contributions to the Society nearly to his death in 1891. His benefactions are well described in Fletcher (1929). This entry illustrates one of his first contributions:

'Friday, 22 January

I purchased yesterday at Flavelle's for presentation to the Linnean Society a very nice Microscope price £13 — our first meeting is on Monday & as I have not prepared any inaugural address I wish to give something as a substitute.'

These next 1875 entries illustrates that William John was continuing to add to his natural history collections at an increasing rate:

'Friday, 5 February

This day completes the first year of Mr Masters curatorship, & I think that the additions to my Museum during that time have been very large indeed. I have now over 1000 species of birds, of them 395 are Australian. There is a fine collection of fish, the reptiles are rapidly increasing, a large number have been added from the Endeavour river, California etc, to the entomological collections, while of shells & marine animals we have accumulated a vast number.'

'Tuesday, 16 February

Webb's box of mammals & birds from King George Sound also arrived & a very good lot they are about 30 mammals & 90 birds, some large such as Emus etc price £25/8/6; about 25 species of the birds were not previously in my collection & the mammals were all new.'

Many entries in Macleay's 1875 diary are concerned with the purchase and outfitting of the *Chevert*:

'Friday, 26 February

I went to Belisario's [his dentist] at 4 & from thence to the Club where I met Captain Edwards. He announced that he had completed the purchase of the barque *Chevert* for £3000. I gave him a cheque for the amount & he takes possession tomorrow.'

This entry gives an indication that Macleay was earnestly purchasing equipment for the expedition. I found it interesting that he was first concerned with obtaining rifles, carbines and revolvers — types of firearms not usually associated with collecting specimens. He must have had some concern for the safety of the expeditioners:

'Monday, 1 March

I met Captain Edwards this morning at Mitchell & Co about the ship. We went to the Custom House where I made a declaration that I was a British subject & the owner of the "*Chevert*". I also ordered tanks for the expedition at Lassiter & purchased 6 Snider & 6 Muzzle loading Carbines & 12 revolvers. I also looked at some nets at Eastways. The supply of arms I have in the house I am sending to Lassiter's gunsmith to be looked to. They consist of a revolving rifle & 4 revolvers, two of them & the rifle double trigger Straners.'

Not all collecting expeditions were successful as judged by this entry:

'Monday, 29 March

Masters came in for a few minutes in the afternoon, his shooting excursion had a very melancholy termination, one of the party named Thomson accidentally shot himself dead yesterday. The inquest is to be tomorrow.'

The list of equipment for the *Chevert* expedition continued to grow. It is obvious that William John was planning a major collecting expedition:

'Wednesday, 31 March

I went to town early with Capt. Edwards. We went first to Lassiters & examined & priced tomahawks, knives, scissors, files, iron hoops etc. etc. for trade, then to Newtown & Co. & did the same as regards Blankets, calicoes, Prints, mosquito nets etc. etc. then to Birds & looked at hams, Bacon, preserved meats, vegetables, groceries, etc. etc.'

'Friday, 2 April

I had some letters from Melbourne of people anxious to go to New Guinea, one suggesting that I should take a cargo of women to present to the chiefs.'

This next entry, like that for 17 December 1874, is another interesting project that should be investigated. Macleay's entry states 'some newly described species' — does this mean type specimens could have been sent to Macleay?

'Friday, 16 April

He (Masters) & I put away today the insects which came yesterday by the ship Jerusalem, 1 small box chiefly Carabidae from H. W. Bates, another of Heteromera from F. Bates both contained some newly described species.'

This is the first entry in the diary that Macleay kept especially for the *Chevert* expedition. A broad spectrum of zoological specimens were collected (including microscopic Foraminifera), but insects were not in abundance during the entire voyage.

'Saturday 29th May 1875

on board the Barque "Chevert"

The "Chevert" left Sydney on Tuesday 18th May with a crew, collecting staff & all supplies necessary for the objects of her cruise, details of which will be found in another place, for Somerset, Cape York. . . . The dredge was out over the stern during the night & presented a fair return along with the swabs this morning one or two good shells & Crustacea, a number of Polyzoa, Polypifera, Echinoderms, etc. Some Gorgonias I have tried to preserve in a solution of Chromic Acid at Capt. Onslow's request as an experiment. Some Foraminifera were also got. The catch was most miserable in the Insect tribe.'

From the diary, it is apparent that specimens were obtained by trading with the locals. But this was not altogether successful because the natives had little to return. This entry was written while at Cape Grenville and is one of the few entries about the local people. Also, a collecting technique was used on the *Chevert* voyage that would not be environmentally acceptable today:

'Sunday 13 June — 9 o'clock p.m.

We were visited by turns by all the blacks in the neighbourhood — 11 in all — no women or children showing — during the forenoon, the cry was for pipes, tobacco biscuit & matches, for which they were willing to part with some very inferior pearl shell etc. etc. They were well treated & told that they must bring fish shells & other things of some value if they wanted a repetition of the biscuits & tobacco. To some extent they have already shown a desire to supply me with these things. A number of strange fish have been brought me & a few shells. . . . We found however on returning to our boat that Hargraves had been using some dynamite among the rocks & got some beautiful little fish quite new to me.'

This next entry was written while anchored off the mouth of the Katow River, Papua New Guinea. According to his diaries, this was one of the most successful days of the voyage. It also shows that he was interested in ethnographic material as well as zoological specimens:

‘Wednesday 7th July — 8 o’clock p.m.

‘This day was also stormy & I again kept the ship. The launch & surf boat however went on shore & all returned about 1.30 with half a dozen natives to stop the night & a boat load of bananas, coconuts & a miscellaneous collection of arms, implements, ornaments, snakes, shells, crabs, insects etc collected by the natives. This is the best day as far as collecting is concerned I have had, & much more is promised by the natives of all the villages.’

Macleay was also interested in obtaining skeletal material of natives. This mummy is still in the Macleay Museum, but because of changing social attitudes, it may not remain there much longer:

‘Friday 6th August. Noon.

[At Darnley Island.] I have succeeded in getting several mummied heads & the 1st mate has gone round in the boat to the village today to get me a complete mummy which has been promised him.’

1876 DIARY

Macleay wrote entries for 248 of the 366 days in his 1876 diary. Most entries were short and his main emphasis was concerned with the building and status of his museum, the acquisition of specimens and books, progress of manuscripts arising from the *Chevert* expedition and the business of the Linnean Society of New South Wales.

His diary started with a foreword before starting his entries for the year. This is only part of this foreword:

‘Since my return from New Guinea in October last, I have ceased to keep a diary. I am now on the 26th January 1876 about to commence again. And before doing so I wish to make some notes on what I have done or what has happened during the above mentioned period.

My Museum has been much added to. The collections made during the voyage of the “Chevert” have been now almost all removed from the original packages, the mammals & birds have been mostly catalogued & named. The insects have been carefully laid out. The Fishes & reptiles have been bottled or where too large packed away in tanks. The Crustacea have been dried as have the Echinodermata & c some extent, myriads of small things have been bottled & the shells have been catalogued. To get through all this work I have had & still have three men fully employed. Messrs Masters, Brazier & Spalding. I have besides had large collections of birds & c from other places, 800 birds from London, a number from San Francisco & a good collection from the Figis, besides numerous purchases & donations. The collection is so extensive that I find I have no room in the House even with the library for the whole of it. I have therefore commenced a building on one of my leased pieces of land in the garden to be used as a Museum, it is 115 feet long, 36 feet wide, 9 feet high & made chiefly of iron, the cost is to be £1080.

It did not take long for results to be published from the *Chevert* expedition:

‘Thursday, 27 January

Brazier has now got through the shells of the “Chevert” expedition about 3000 species. He is now to give a list of them with descriptions of new species in papers to be read at the Linnean Society. He is to take the Land Shells first.’

After extensive searches in museums and libraries in New Zealand, only a few lists have been found that relate to the Macleay collections sent to that country:

‘Tuesday, 8 February

Masters had a letter today from Waterhouse, South Australia, acknowledging the birds sent him & promising things. Masters also had a letter a few days ago from von Haast, Otago [actually Canterbury Museum, Christchurch], saying that birds & moa bones would be sent by next steamer. I had by the California Mail a letter from Edwards [California] with photograph of a pitcher plant with a descriptive paper by himself. I also had a letter from Gruber [California], apprising me of a box of birds & c which he had ready & would send by next Steamer.’

The insects referred to in this next entry were discovered in the Canterbury Museum a few years ago. They are stored in a 10-drawer cabinet and the top drawer had been on loan for more than 20 years. When it was returned, there was a note inside indicating that this drawer plus the following nine were from William John Macleay. A worthwhile project would be to go through this collection, because there is a possibility that some of Macleay's types are included:

'Tuesday, 9 May

I booked today per steam ship Easby a case for van Haast of Canterbury Museum N.Z. containing over 1000 species of Australian Coleoptera, about 150 species of Australian shells, two birds (desiderata) a specimen of Nickel ore from New Caledonia & two lumps of Cinnabar ore from Queensland.'

Much of the 1876 diary is taken up with Macleay's interest in fish:

'Tuesday, 27 June

I commenced upon the Fishes of the Chevert expedition today.

I shall give up a few hours every day to do it. Dr Alleyne is to join me in the work.'

Macleay's collections continued to grow:

'Tuesday, 22 August

Webb's box from King Georges Sound contained 21 mammals & 78 birds some of both very good, 72 of the birds new to my collection, that now comprises 552 species of Australians.'

Some of Cockerell's specimens mentioned by Macleay are still in the Macleay Museum. It would be interesting to search through Cockerell's correspondence to see if there is correspondence from William John or George Masters:

'Monday, 16 October

A Mr Goodwin from San Francisco brought me a few birds skins & eggs which I bought for £4.10 & Masters purchased for me from Cockerell for £27/8 about 50 birds, 15 bats & other Mammals, an enormous number of Insects & a few other things from New Britain, New Ireland & Duke of York Island.'

1878 DIARY

There is no 1877 diary. The 1877 diary year was used as his 1878 diary. Only one page was written and dates were in his hand. Both entries pertained to his collections. There are many zoological specimens from Madras, India and King George Sound that are still in the Macleay Museum:

'Friday, 10th May 1878

Wrote to Dr Bidie of the Madras Museum about exchanges & sent cheque for £30 to Morr K.G. Sound for Webb for specimens.

Friday, May 24th

Wrote Count Castelnau about Ambassis [a fish] & list of Australian Mollusca.'

1879 DIARY

William John not only provided his time and monies to instill interest in natural history in Australia. He also encouraged promising young scientists such as W. A. Haswell. Macleay's words were prophetic:

Wednesday, 1 January

'Mr Haswell, a young naturalist of great promise, works there [Macleay's museum] for his own amusement & has contributed some valuable Papers to the Linn. Soc. N.S. Wales.'

Macleay purchased many specimens from Cockerell and it could provide an interesting line of research on these specimens:

'Monday, 13 January

Masters went this morning on board a vessel from the Solomon Islands & purchased a nice collection. It was made by Cockerell, who by his terms with the Captain was entitled to one

third only. The other two thirds the Captain sold to Masters & Ramsay for £17/10 each, equally divided. My share consisted of over 100 bird skins rare & beautiful, about 20 each of Cuscus & flying fox skins, about 1 dozen Fish, a few snakes & lizards & some insects, on the whole a cheap & satisfactory lot.'

Many bottled Sourabaya specimens still exist in the Museum today:

'Saturday, 14 June

Spalding purchased for me today at Auction a collection of Snakes, Lizards &c &c mostly small things, made at Sourabaya for £8/10. It is decidedly a cheap bargain as there are over 100 specimens, each in a glass stoppered bottle.'

Dr Hector was visiting Macleay in September. Mcleay's comment about the condition of Hector's specimens are of considerable value because we know they probably no longer exist:

'Thursday, 4 September

'I received the Fishes & Birds from New Zealand from Dr Hector.'

'Friday, 5 September

Hectors Bird skins turns out to be riddled & destroyed by the larvae of a *Hister*.'

Another interesting project would be to find the specimens sent the Macleay from Dr de Saussure. The original lists are in the Museum and many of the Hymenoptera have now been located. A search through Dr de Saussure's documents might yield some interesting Macleay correspondence:

'Saturday, 29 November 1879

I had a letter today from Dr Henri de Saussure — Geneva wanting to exchange Hymenoptera & Orthoptera & one from Professor Loven of Stockholm about Echinoderms, thanking me for those I sent him & giving a list of those he is sending to me through Williams & Norgate.'

'Saturday, 20 December 1879

Masters has filled up 5 boxes with Hymenoptera (350 species) & Orthoptera (200 sp) for Henri de Saussure of Geneva.'

1880 DIARY

There are only 70 entries for 1880, the last written on 15 April. The principal interest of William John mentioned in the diary was the acceptance of the presidency of the Fish Commission and many of the entries refer to meetings of this commission. He was also working on the fishes of Fiji. More specimens came from overseas and Australia and included insects, echinoderms and other invertebrates, fish and mammals:

'Saturday, 24 January

Hastie's [Charles Hastings] boys brought me a specimen of the sooty Albatross caught in the harbour.'

There are now two specimens of this albatross in the Museum, one from California and the other labelled 'Australian seas', so the harbour specimen is no longer in the collection. Very few references are made to the plant kingdom in his diaries and this, perhaps, is one of the most interesting:

'Thursday, 29 January

I also got a fine collection of Fungi (mostly the dry ones growing on Wood) from Tenison-Woods.'

I know of no plants which now exist from Macleay's natural history collections.

1881 DIARY

There are only 7 entries for 1881, the first written on 29 January, the last on 15 June. His comments were centred on his Australian catalogue of fishes and the acquisition

and exchange of zoological specimens. The following comments show that he was still actively building his collections, mainly from overseas sources:

'Saturday, 29 January

I received several bottles full of small fish from Count de Lanberg a few days ago most of them from Amboyna, a few from Flores & Dorey, very few new species. I am working at present at a Catalogue of all the Australian fishes & have made much progress that I expect to finish in two months.'

'Tuesday, 22 February

On Friday last the 18th of this month, I sent by the Steamer William McKinnan to Count Lansberge Batavia a case containing two boxes of Coleopterous Insects about 150 species of Heteromera & 250 of Phytophaga &c. I also wrote him the same day. Today I have sent by the P. & O. Company Steamer to Dr Bidie Madras, a case containing Birds, Skulls, Crustacea & three Mammals in spirits. Dr Bidie's Cask of Fish has not reached me yet. I received today from Mr Williams (Mate of the Chevert) from Torres Straits a small cask containing Coral & a few other things, but I have not yet opened it.'

The reference to a diver is interesting to me. This was a collecting technique that had not been mentioned before in his diaries. Surely there would have been species obtained that were new to his collection. It is also surprising how quickly he finished his catalogue of Australian fishes:

'Sunday, 6 March 1881

The case sent by Mr Williams from Endeavour Straits, contained several species of beautiful Gorgonia & Sponges & a few shells, all apparently brought up by a diver. . . . I finished my catalogue of Australian Fishes this morning, 1130 species.'

Macleay corresponded and exchanged specimens with Henry Edwards for some years. Mr Edwards was an actor by profession and was a well-known entomologist. He came to Australia in 1853 and left in 1865, returning to California. His collections eventually were given to the American Museum of Natural History New York (Munro, 1932). It was here that I found 16 Macleay letters (30 November 1869-23 March 1881) and 6 George Masters letters (28 May 1870-14 January 1876). These are the only Masters letters that I have been able to find in my searches through world-wide Museum archives so far:

'Wednesday, 23 March 1881

Yesterday I sent to Henry Edwards 185 East 116th Street, New York, a case containing over 200 species & over 800 specimens of Australian Lepidoptera & four volumes of the Proceedings of our Linn Society.'

In Macleay's covering letter for the above shipment to Edwards, he acknowledged his election as an honorary member of the New York Entomological Club.

This is the last entry to William John Macleay's extant diaries:

'Wednesday, 15 June 1881

Received a fine collection of Fishes from A. Goldie from Port Moresby over 150 species, same day wrote to him & paid Mason Brothers for him £53/4.'

Received letter from Professor Loven acknowledging last consignment & promising to send some things Fishes &c immediately.'

William John continued with his scientific endeavours to about 1888, when he published his last papers. He also supported other workers. To illustrate this, I would like to share with you this obscure reference that I recently found quite accidentally:

'Dr R. von Lendenfeld having left the Lincoln College of Agriculture, has proceeded to Sydney, where he has been commissioned by the Hon. W. Macleay, of Sydney, to write a monograph of the Australian Sponges. Rooms and material have been placed at his disposal, so that we may shortly expect to hear of the progress of this work, for the execution of which he is well qualified.' (Anonymous, 1884)

This support resulted in von Lendenfeld's (1889) famous monograph on the horny sponges. Strangely, though, only three species of sponges, all from Torres Strait, were recorded from the Macleay collections.

By the end of Macleay's career, his museum contained a well organised and curated goldmine of natural history specimens. His collections ranged from the lowly Protozoa, marine and terrestrial invertebrates, birds, mammals, and reptiles to human remains and ethnographic material. They were well maintained until just before George Masters' death in 1912.

But after that time, the fortunes of the Macleay collections declined rapidly. Horning (1984a, b) gave a brief history of the collections after 1912. The funds left by Sir William Macleay to continue the curatorship of the Museum disappeared into the University of Sydney's coffers. The collections were moved to the attic of the Macleay Building and were not looked after. Hence there was a considerable deterioration of the collections. Specimens were stolen, others sent to scientists without proper loan forms and many, especially the vast marine invertebrate collections, were left to rot.

There was a public outcry, led by J. J. Fletcher in the early 1920s, about the appalling state of the collections. But despite extensive newspaper coverage, nothing was done by the University of Sydney.

Then in 1958, Elizabeth Hahn was appointed curator, with the status of a laboratory assistant. During her five year tenure, she put a tremendous amount of time and enthusiasm into restoring the collections. She fumigated the insect collection, filled the spirit collections and wrote a catalogue of the type specimens that she could find. The fortunes of the collections had turned for the better.

Jenny Anderson, was the next curator from 1963-1966. She, too, was an energetic worker and during her tenure, she worked mostly with the non-insect material. In 1964, there were discussions within the University of Sydney to close the Macleay Museum and possibly demolish the 1888 building. She was instrumental in changing that view, pointing out the legal responsibilities of the University of Sydney to the Macleay collections.

In 1969, many type specimens of vertebrates were transferred to the Australian Museum. More than 5600 insect types were transferred on 'permanent loan' to the Australian National Insect Collection, Canberra. Thus a significant part of the collections were distributed elsewhere.

I came to the Macleay Museum in 1982 and was responsible primarily for the invertebrate collections. The insects were moved to a small, air-conditioned laboratory and work continues on curating the collection. It is now used extensively by taxonomists world-wide. I formed the Invertebrate Unit and began to accumulate many papers that were needed to help document historic specimens. The Unit now has one of the largest historic entomological libraries in any university in New South Wales. The marine invertebrate literature is supported by Professor W. A. Haswell's collection of scientific papers (saved from being taken to the Tempe Tip), and is bound in more than 100 volumes. This important literature source of the late 1880s is now catalogued.

The Macleay collections reflect the natural history interests of nineteenth century scientists and that of the history of the University of Sydney. They have been in the care of the University since 1888 and at least some of the original collections are extant. They provide an important historical data base that has been used by University people and outside researchers. The use of the collections, especially the insects, has increased dramatically in the past ten years, and they now have a substantial international reputation.

But what of the future of the collections so carefully assembled by the Macleay family? They have been under threat from time to time in the past eighty years and it

seems that situation has changed little. Last year, there was an enquiry into the 27 collections and museums within the University of Sydney. This culminated in the unpublished: *Report of the Committee of Review of the Macleay Museum and Historical, Cultural and Scientific Collections Within the University*. There were nine recommendations specific to the Macleay Museum.

Three of these recommendations pertain to the topic of this evening. Recommendation 13 is: 'That within the ethnographic collection effective procedures be urgently adopted to identify and control access to the exceedingly sensitive, and valuable, secret/sacred holdings in the Aboriginal and Torres Strait Islander section'. Work is progressing on this recommendation and a new area in Fisher Library will be designated to store the secret/sacred ethnographic artifacts and aboriginal skeletal specimens. Some of this material, including the Torres Strait Island mummy, was collected by Macleay. It will be isolated from the rest of the ethnographic collection until its fate is determined through negotiations with aboriginal communities and anthropologists. The Vice-Chancellor has appointed me as the University's aboriginal liaison officer to coordinate efforts in the proper treatment of the sensitive material in the Macleay and Shellshear Museums, University of Sydney.

Recommendations 8 and 9 are the most disturbing to the future of the Macleay natural history collections: 'That the *major biological collections* of both invertebrates and vertebrates be largely transferred to national research institutions for greater research accessibility and more appropriate storage facilities: in the case of invertebrates it is likely that the Australian National Insect Collection would be interested: in the case of vertebrates, the Australian Museum'. Recommendation 9 follows: 'That a small historic core of the Macleay donation both of invertebrates and vertebrates be retained as a permanent display in the Macleay Museum Gallery, after negotiation with the recipients of the main collections.'

I point out that these are only recommendations and are subject to negotiation in future. But there is a consideration to dispose of these valuable collections. My question put to you is what stand should be taken? Would it be in the best interests of the collections to be transferred to other institutions in light of the negligible support the University is giving to the Macleay Museum? Would it be best to retain the collections and somehow obtain more support and give them legislative protection such as the insect and plant collections at the Department of Agriculture at Rydalmere? Should only part of the collections be sent to other museums? I have some ideas of what should be done but do not wish to commit myself without consultation with zoologists and museum specialists.

But whatever happens to the collections, I firmly believe that the time has come to finally decide their future. Their fortunes have been waxing and waning for more than eighty years and will continue to do so if something definitive is not done. If decisions are delayed, then the significance of the collections to Australian history and science will continue to erode. I welcome ideas about what should be done with the Macleay collections from members of the Linnean Society of New South Wales.

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